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DATA SHEET

PART NO.:LT675RGCT-HX

REV: A/2

CUSTOMER'S APPROVAL: _____

DCC: _____

DRAWING NO.: DS-31P-20-0071

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3.5*2.8*1.9 mm PLCC LED

LT675RGCT-HX

REV:A/2

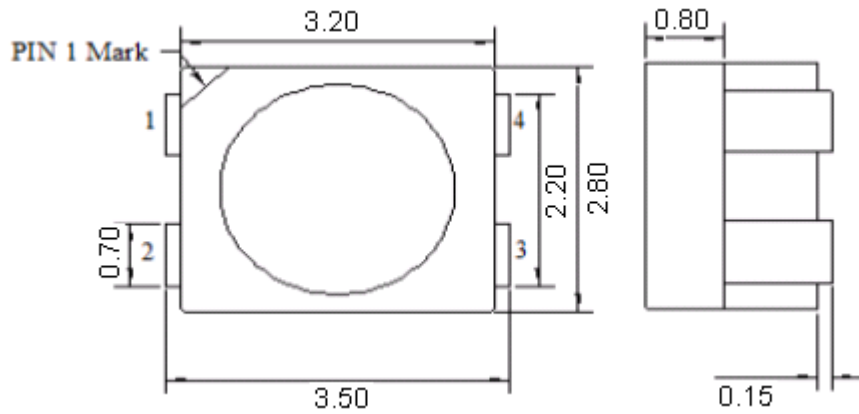
◆ **Benefits :**

- Low power consumption
- Available in various colors.
- Long life span (up to 30000hours)
- Soldering methods: IR reflow soldering and Hand soldering
- high brightness surface mount technology, for safe touch
- Emitting viewing angle 120°
- ROHS standard.
- Moisture sensitivity level:Level 5a.

◆ **Applications:**

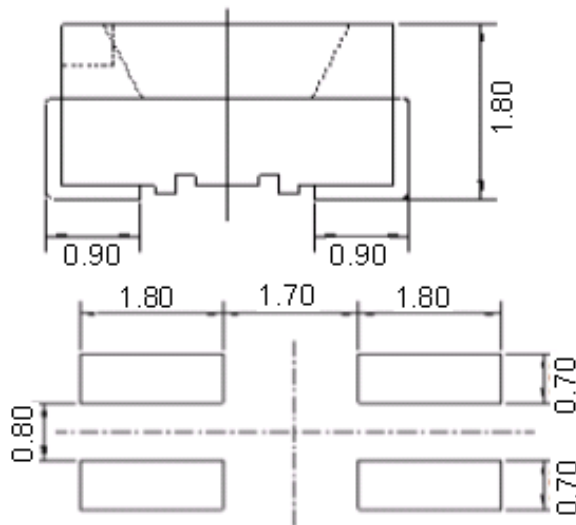
- Automotive
- Backlighting
- Decorative light
- Appliance light
- Sign and Channel Letter
- Indicators, Consumer, industrial, electronics.

◆Mechanical dimension



- 1 R —▲— 4 +

- 2 G —▲— 3 +



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.15 mm unless otherwise noted.
3. Specifications are subject to change without notice.



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◆ **Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Color	Rating	Unit
Power Dissipation	PD	Red	44	mW
		Green	66	mW
Forward Current *1	IF		5	mA
Operating Temperature Range	Topr		-30~+80	°C
Storage Temperature Range	Tstg		-40~+100	°C
Reverse Voltage	VR		5	V
Soldering Temperature (T=5 sec)	Tsol		260 ± 5	°C

*1 Proper current derating must be followed to keep LED junction temperature (T_J) below the maximum.

*2 Condition for I_{FP} is pulse of 1/10 duty and 3 msec width.

◆ **Electrical - Optical Characteristics (Ta =25°C)**

Parameter	Symbol	Color	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	Red	IF = 20mA	1.9	---	2.1	V
		Green	IF = 20mA	2.9	---	3.1	
Luminous Intensity	IV	Red	IF = 20mA	300	---	400	mcd
		Green	IF = 20mA	1400	---	1800	
Dominant Wave Length	WLD	Red	IF = 20mA	620	---	625	nm
		Green	IF = 20mA	520	---	525	
Reverse Current	IR		VR=5V	0	---	10	μA
View Angle	2θ _{1/2}		IF = 20mA	---	120	---	degree

◆ **Bin Limits (At 20mA)**

COLOR	RED (At 20mA)					
ITEM	Iv (mcd)		WLD(nm)		VF (V)	
BIN	MIN	MAX	MIN	MAX	MIN	MAX
R	300	400	620	625	1.9	2.1

COLOR	Green(At 20mA)					
ITEM	Iv (mcd)		WLD (nm)		VF (V)	
BIN	MIN	MAX	MIN	MAX	MIN	MAX
G	1400	1800	520	525	2.9	3.1

◆ Typical Electro-Optical Curves :(at T_{Ambient} Temperature=25°C)

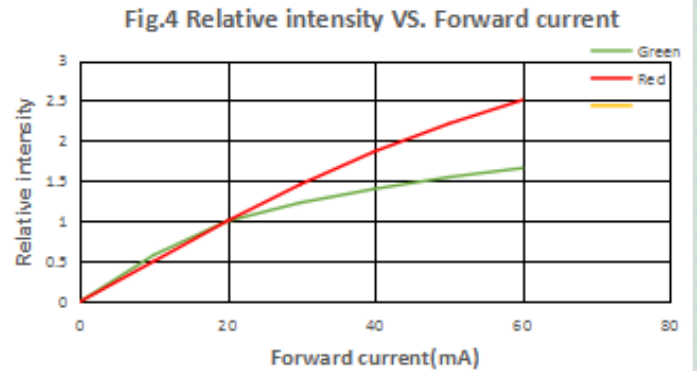
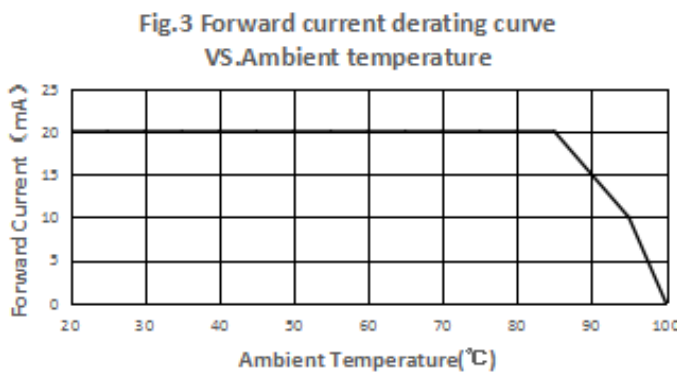
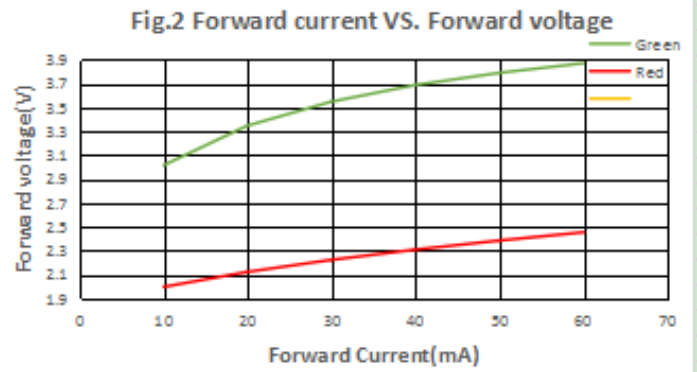
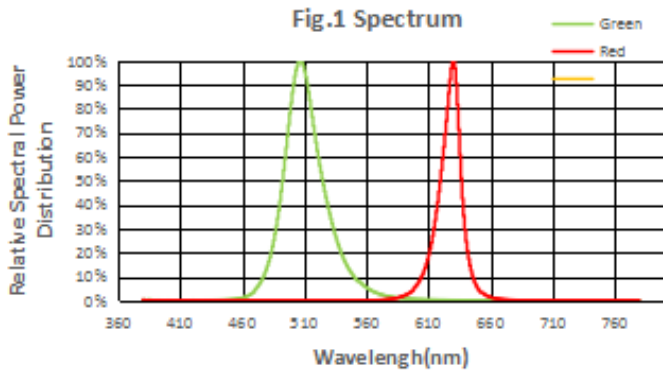
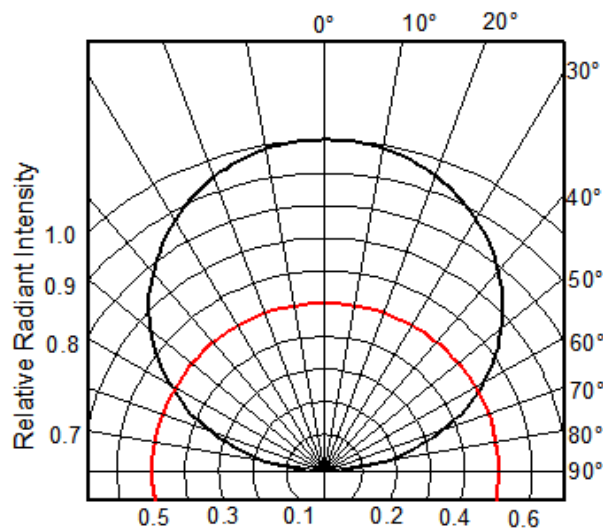
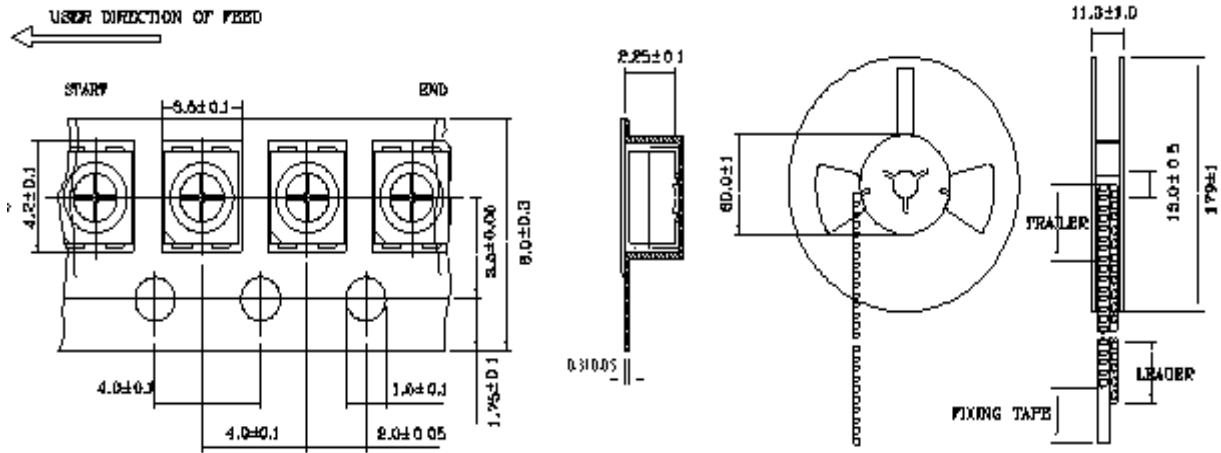


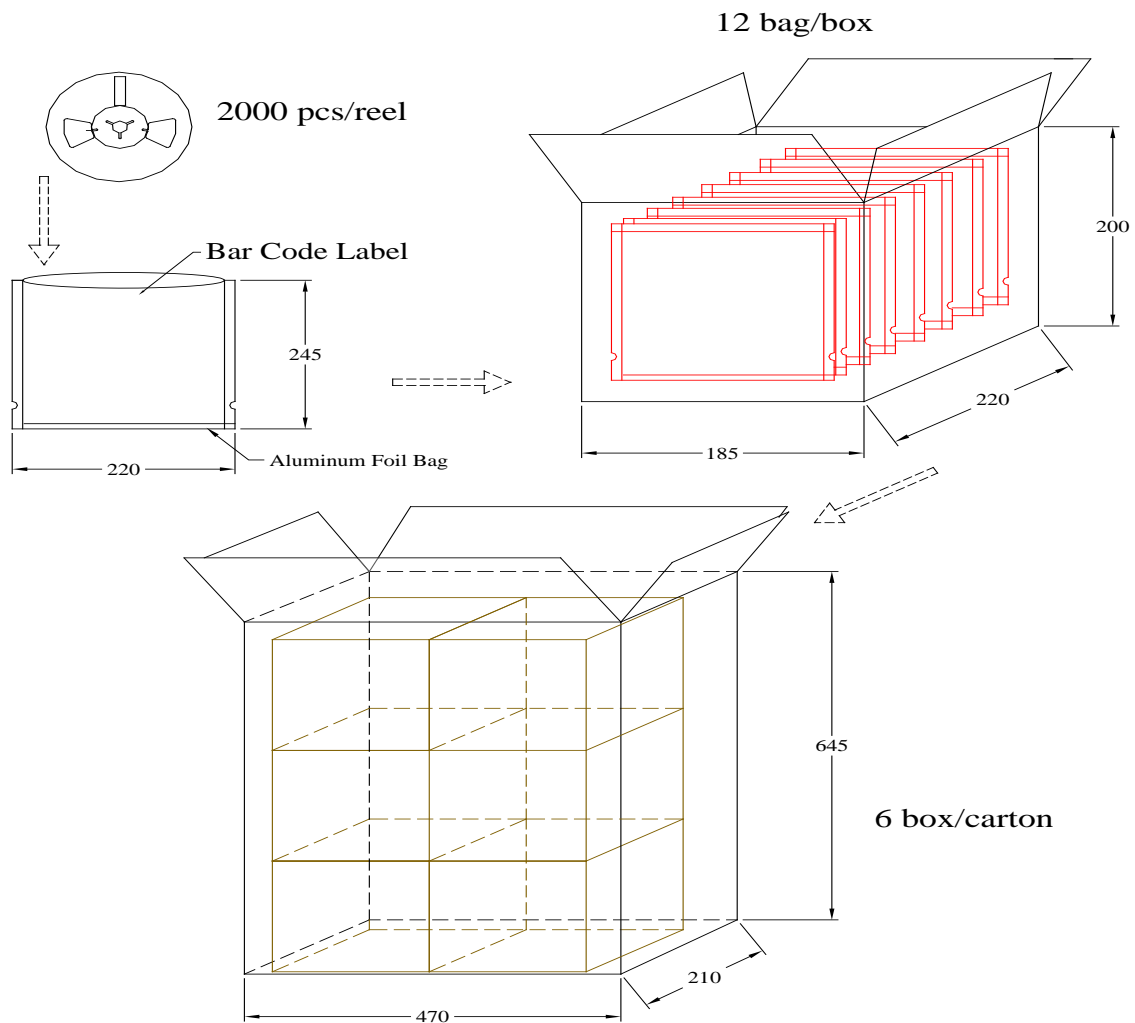
Fig.5 Radiation Diagram (T_a=25°C)



◆ Tapping and packaging specifications (Units: mm)



◆ Package Method : (unit:mm)





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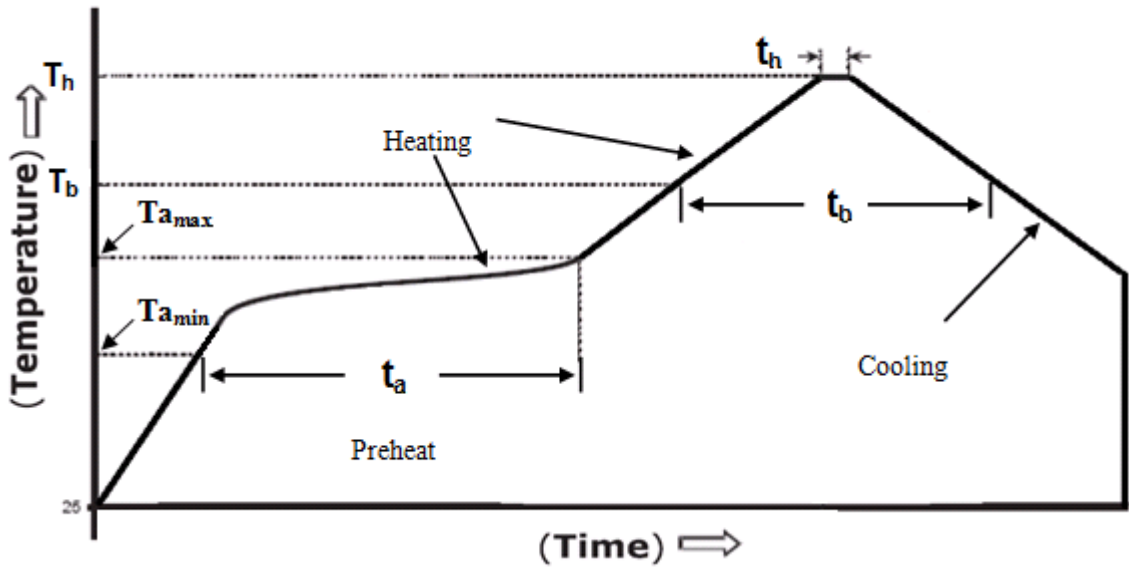
REV:A/2

◆ Reliability Test

Classification	Test Item	Reference Standard		Test Conditions
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS-C-7021 :B-1	I _F =60mA T _a =Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	T _a =+65°C±5°C RH=90%-95% Test time=168hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High T _a =+85°C±5°C Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low T _a =-35°C±5°C Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	-35°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	-35°C±5°C ~+85°C±5°C 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating : 140°C-160°C, within 2 minutes. Operation heating : 260°C (Max.), within 10seconds. (Max.)	0/20

◆ Soldering :

1. The temperature of the iron tip should not be higher than 350°C and Soldering time to be within 3 seconds per solder-pad.
2. Reflow Soldering Temp/Time



Temperature curve Parameters	Lead solder paste	Lead -free s older paste
The rate of temperature	4°C/SEC.MAX	4°C/SEC.MAX
Preheat : Min temperature (Tamin)	100°C	120°C
Preheat : Max temperature (Tamax)	150°C	180°C
Preheat time (tamin to tamax)	60~100 SEC	60~120 SEC
Soldering temperature (T _b)	180°C	217°C
Soldering time (t _b)	60~120 SEC	60~120 SEC
Peak temperature	215°C	260°C
Peak temperature time	10 ~15 SEC	5~10 SEC
Cooling speed	6°C/SEC.MAX	6°C/SEC.MAX

◆ **Judgment criteria of failure for the reliability**

Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Forward voltage	VF (V)	IF=5mA	Over U1x1.2
Reverse current	IR(uA)	VR=5V	Over U1x2
Luminous intensity	Iv (mcd)	IF=5mA	Below S1X0.5

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2.After each test, remove test pieces, wait for 2 hours and test pieces have returned to ambient temperature, then take next measurement.

◆ **Storage:**

1. Recommended storage conditions before unpacking: below 30 °C and relative humidity below 60%.
2. The products within 6 months must be welded within 24 hours after unpacking; It is recommended that the unfinished products be stored in sealed containers with hygroscopic materials or dryers with nitrogen environment and used up as soon as possible (baking is required before use); If you open the original package and find that the product has silica gel discoloration or humidity card discoloration, it needs to be baked before use.
3. Products stored in the original packaging for more than 6 months shall be opened and baked before use.
4. For all baked products, it is recommended to try 1-3 rolls first, and then put into mass production without abnormality. Baking conditions: 65 ± 5 °C / 24 hours.

◆ **Note:**

- (1) Care must be taken not to damage LED's silicone resin while exposing to high temperature or contact LED's silicone resin with hard or sharp objects, such as metal hook, tweezers or sand blasting.
- (2) Current limiting resistor must be used in the circuit to drive Grand LEDs within the rated figures and not to overload Grand LEDs with instantaneous voltage at the turning ON and OFF cycles. When using pulse driving, the average current must be within the rated figures. And the circuit should be designed to avoid reverse voltage when turning off the Grand LEDs.

◆ **Package and Label of Products:**

Package: Products are packed in one bag of 2000 pcs (one taping reel) and a label is attached to each bag.